

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1-17. (Canceled)

18. (Currently amended) An apparatus for treating waste material comprising:

a thermal reactor having an inner chamber that carries a waste stream, and an outer

chamber that provides heat to the inner chamber to sustain pyrolysis, wherein the inner chamber is gaseously sealed from the outer chamber in the thermal reactor;

a first conveyor disposed within the inner chamber that transports the waste stream through the inner chamber, and includes a first screw section; and

a thermal oxidizer that burns gases derived from the inner chamber, and produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber.

19. (New) The apparatus of claim 18, further comprising a second conveyor mounted within the inner chamber in a side-by-side relationship with the first conveyor.

20. (New) The apparatus of claim 18, wherein the thermal oxidizer further comprises first and second sub-chambers divided by a baffle that controls the flow of gases between the first and second sub-chambers.

21. (New) The apparatus of claim 20, further comprising a pressure sensor operably associated with the baffle that senses a pressure differential between the first and second sub-chambers.

22. (New) The apparatus of claim 18, further comprising a feed hopper coupled to the thermal reactor, the hopper controllably feeding the waste stream to the inner chamber of the thermal reactor.

23. (New) The apparatus of claim 22, further comprising a waste conveyor that transports the waste stream to the hopper.

24. (New) The apparatus of claim 22, further comprising a feed screw that transports the waste stream from the hopper.

25. (New) The apparatus of claim 18, further comprising an atomizer upstream of the thermal reactor that at least partially atomizes at least some of the waste stream.
26. (New) The apparatus of claim 18, further comprising a dryer upstream of the thermal reactor that dries at least some of the waste stream.
27. (New) The apparatus of claim 19, wherein the inner chamber has a first sub-chamber disposed about the first conveyor, and a second sub-chamber disposed about the second conveyor.
28. (New) The apparatus of claim 18, further comprising a steam generator that generates steam using at least some of the exhaust gases.
29. (New) The apparatus of claim 28, further comprising a turbine that generates power from the steam.